

WEST[Help](#)[Logout](#)[Interrupt](#)[Main Menu](#)[Search Form](#)[Posting Counts](#)[Show 8 Numbers](#)[Edit 8 Numbers](#)[Preferences](#)**Search Results -**

Term	Documents
"ATCC 11506".DWPI,TDBD,EPAB,JPAB,USPT,PGPB.	0
"ATCC 11506".USPT,PGPB,JPAB,EPAB,DWPI,TDBD.	3

Database:

[US Patents Full-Text Database](#)
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Refine Search:

"DSM 33199"

[Clear](#)**Search History****Today's Date: 12/6/2001**

<u>DB Name</u>	<u>Query</u>	<u>Hit Count</u>	<u>Set Name</u>
USPT,PGPB,JPAB,EPAB,DWPI,TDBD	"ATCC 11506"	3	L49
USPT,PGPB,JPAB,EPAB,DWPI,TDBD	"ATCC 332"	0	L48
USPT,PGPB,JPAB,EPAB,DWPI,TDBD	"DSM 20553"	0	L47
USPT,PGPB,JPAB,EPAB,DWPI,TDBD	"ATCC 33200"	0	L46
USPT,PGPB,JPAB,EPAB,DWPI,TDBD	"NCC 533"	0	L45
USPT,PGPB,JPAB,EPAB,DWPI,TDBD	"DSM 33199"	0	L44
USPT,PGPB,JPAB,EPAB,DWPI,TDBD	"DSM 20243"	0	L43
USPT,PGPB,JPAB,EPAB,DWPI,TDBD	"NCC 90"	3	L42
USPT,PGPB,JPAB,EPAB,DWPI,TDBD	"LaIO NCC 90"	0	L41
USPT,PGPB,JPAB,EPAB,DWPI,TDBD	"ATCC 4356" and "Lactobacillus"	22	L40
USPT,PGPB,JPAB,EPAB,DWPI,TDBD	"ATCC 4356"	26	L39

USPT,PGPB,JPAB,EPAB,DWPI,TDBD	"ATCC 33200"	0	L38
USPT,PGPB,JPAB,EPAB,DWPI,TDBD	"Lal (NCC 533)"	0	L37
USPT,PGPB,JPAB,EPAB,DWPI,TDBD	"L. johnsoni ATCC 11506"	0	L36
USPT,PGPB,JPAB,EPAB,DWPI,TDBD	"ATCC 11506"	3	L35
USPT,PGPB,JPAB,EPAB,DWPI,TDBD	"L. gallinarum DSM 33199"	0	L34
USPT,PGPB,JPAB,EPAB,DWPI,TDBD	"L. johnsonii Lal NCC 533"	0	L33
USPT,PGPB,JPAB,EPAB,DWPI,TDBD	"NCC 533"	0	L32
USPT,PGPB,JPAB,EPAB,DWPI,TDBD	"ferric" and "medium" and "Lactobacillus" and "milk"	46	L31
USPT,PGPB,JPAB,EPAB,DWPI,TDBD	"ferric" and "medium" and "Lactobacillus"	93	L30
USPT,PGPB,JPAB,EPAB,DWPI,TDBD	"iron" and "cutlure medium"	0	L29
USPT,PGPB,JPAB,EPAB,DWPI,TDBD	"iron chelator" and "cutlure medium"	0	L28
USPT,PGPB,JPAB,EPAB,DWPI,TDBD	"ferric" and "cutlure medium"	0	L27
USPT,PGPB,JPAB,EPAB,DWPI,TDBD	"ferric" and "cutlure medium" and "milk"	0	L26
USPT,PGPB,JPAB,EPAB,DWPI,TDBD	"ferric" and "milk-based culture"	0	L25
USPT,PGPB,JPAB,EPAB,DWPI,TDBD	"iron" and "milk-based culture"	0	L24
USPT,PGPB,JPAB,EPAB,DWPI,TDBD	"iron" and "culture medium" and "Lactobacillus" and "amino acids" and "cysteine" and "adenosine"	8	L23
USPT,PGPB,JPAB,EPAB,DWPI,TDBD	"iron" and "culture medium" and "Lactobacillus" and "amino acids" and "cysteine"	31	L22
USPT,PGPB,JPAB,EPAB,DWPI,TDBD	"iron" and "culture medium" and "Lactobacillus" and "amino acids" and "uridine"	6	L21
USPT,PGPB,JPAB,EPAB,DWPI,TDBD	"iron" and "culture medium" and "Lactobacillus" and "amino acids"	92	L20
USPT,PGPB,JPAB,EPAB,DWPI,TDBD	"iron" and "culture medium" and "Lactobacillus"	167	L19
USPT,PGPB,JPAB,EPAB,DWPI,TDBD	"added ferric" and "medium" and "Lactobacilli"	1	L18
USPT,PGPB,JPAB,EPAB,DWPI,TDBD	"added iron" and "medium" and "Lactobacilli"	0	L17
USPT,PGPB,JPAB,EPAB,DWPI,TDBD	"Rogosa medium"	14	L16
USPT,PGPB,JPAB,EPAB,DWPI,TDBD	"Lactobacilli" and "culture medium" and "ferric" and "amino acids" and "milk"	3	L15
USPT,PGPB,JPAB,EPAB,DWPI,TDBD	"Lactobacilli" and "culture medium" and "ferric" and "amino acids"	4	L14
USPT,PGPB,JPAB,EPAB,DWPI,TDBD	"Lactobacilli medium" and "milk"	2	L13

USPT,PGPB,JPAB,EPAB,DWPI,TDBD	"ribonucleotide precursors" and "milk" and "culture"	0	<u>L12</u>
USPT,PGPB,JPAB,EPAB,DWPI,TDBD	"ribonucleotide precursors include amino acids"	0	<u>L11</u>
USPT,PGPB,JPAB,EPAB,DWPI,TDBD	"amino acid ribonucleotide precursors"	0	<u>L10</u>
USPT,PGPB,JPAB,EPAB,DWPI,TDBD	"selected ribonucleotides"	2	<u>L9</u>
USPT,PGPB,JPAB,EPAB,DWPI,TDBD	"ribonucleotide precursors" and "cytidine"	2	<u>L8</u>
USPT,PGPB,JPAB,EPAB,DWPI,TDBD	"ribonucleotide precursors"	11	<u>L7</u>
USPT,PGPB,JPAB,EPAB,DWPI,TDBD	"culture" and "adenosine" and "Lactobacillus" and "guanosine" and "uridine" and "cytidine"	2	<u>L6</u>
USPT,PGPB,JPAB,EPAB,DWPI,TDBD	"culture" and "adenosine" and "Lactobacillus" and "guanosine" and "uridine"	2	<u>L5</u>
USPT,PGPB,JPAB,EPAB,DWPI,TDBD	"culture" and "adenosine" and "Lactobacillus" and "guanosine"	14	<u>L4</u>
USPT,PGPB,JPAB,EPAB,DWPI,TDBD	"culture" and "adenosine" and "Lactobacillus"	115	<u>L3</u>
USPT,PGPB,JPAB,EPAB,DWPI,TDBD	"culture" and "ribonucleotide precursors" and "iron"	0	<u>L2</u>
USPT,PGPB,JPAB,EPAB,DWPI,TDBD	"Lactobacillus" and "ribonucleotide precursors" and "iron"	0	<u>L1</u>

WEST[Help](#)[Logout](#)[Interrupt](#)[Main Menu](#)[Search Form](#)[Posting Counts](#)[Show S Numbers](#)[Edit S Numbers](#)[Preferences](#)**Search Results -**

Term	Documents
"RIBONUCLEOTIDE PRECURSORS".DWPI,TDBD,EPAB,JPAB,USPT,PGPB.	0
MILK.DWPI,TDBD,EPAB,JPAB,USPT,PGPB.	85276
MILKS.DWPI,TDBD,EPAB,JPAB,USPT,PGPB.	1862
CULTURE.DWPI,TDBD,EPAB,JPAB,USPT,PGPB.	149199
CULTURES.DWPI,TDBD,EPAB,JPAB,USPT,PGPB.	50701
("RIBONUCLEOTIDE PRECURSORS" AND MILK AND CULTURE).USPT,PGPB,JPAB,EPAB,DWPI,TDBD.	0

Database:

US Patents Full-Text Database
US Pre-Grant Publication Full-Text Database
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IBM Technical Disclosure Bulletins

Refine Search:

"ribonucleotide precursors" and "milk"
and "culture"

[Clear](#)**Search History****Today's Date: 12/6/2001**

<u>DB Name</u>	<u>Query</u>	<u>Hit Count</u>	<u>Set Name</u>
USPT,PGPB,JPAB,EPAB,DWPI,TDBD	"ribonucleotide precursors" and "milk" and "culture"	0	<u>L12</u>
USPT,PGPB,JPAB,EPAB,DWPI,TDBD	"ribonucleotide precursors include amino acids"	0	<u>L11</u>
USPT,PGPB,JPAB,EPAB,DWPI,TDBD	"amino acid ribonucleotide precursors"	0	<u>L10</u>
USPT,PGPB,JPAB,EPAB,DWPI,TDBD	"selected ribonucleotides"	2	<u>L9</u>
USPT,PGPB,JPAB,EPAB,DWPI,TDBD	"ribonucleotide precursors" and "cytidine"	2	<u>L8</u>
USPT,PGPB,JPAB,EPAB,DWPI,TDBD	"ribonucleotide precursors"	11	<u>L7</u>
USPT,PGPB,JPAB,EPAB,DWPI,TDBD	"culture" and "adenosine" and "Lactobacillus" and "guanosine" and "uridine" and "cytidine"	2	<u>L6</u>
USPT,PGPB,JPAB,EPAB,DWPI,TDBD	"culture" and "adenosine" and "Lactobacillus" and "guanosine" and "uridine"	2	<u>L5</u>
USPT,PGPB,JPAB,EPAB,DWPI,TDBD	"culture" and "adenosine" and "Lactobacillus" and "guanosine"	14	<u>L4</u>
USPT,PGPB,JPAB,EPAB,DWPI,TDBD	"culture" and "adenosine" and "Lactobacillus"	115	<u>L3</u>
USPT,PGPB,JPAB,EPAB,DWPI,TDBD	"culture" and "ribonucleotide precursors" and "iron"	0	<u>L2</u>
USPT,PGPB,JPAB,EPAB,DWPI,TDBD	"Lactobacillus" and "ribonucleotide precursors" and "iron"	0	<u>L1</u>

WEST**Generate Collection****Search Results - Record(s) 1 through 8 of 8 returned.**☐ 1. Document ID: US 20010034325 A1

L23: Entry 1 of 8

File: PGPB

Oct 25, 2001

PGPUB-DOCUMENT-NUMBER: 20010034325

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20010034325 A1

TITLE: Dietary modulators of gamma glutamyl transpeptidase

PUBLICATION-DATE: October 25, 2001

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Slesarev, Vladimir I.	Coeur d' Alene	ID	US	

US-CL-CURRENT: 514/8

Full	Title	Citation	Front	Review	Classification	Date	Reference
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KWIC	Draw Desc	Image
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☐ 2. Document ID: US 6127356 A

L23: Entry 2 of 8

File: USPT

Oct 3, 2000

US-PAT-NO: 6127356

DOCUMENT-IDENTIFIER: US 6127356 A

TITLE: Oxidant scavengers

DATE-ISSUED: October 3, 2000

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Crapo; James D.	Durham	NC		
Fridovich; Irwin	Durham	NC		
Oury; Tim	Durham	NC		
Day; Brian J.	Durham	NC		
Folz; Rodney J.	Durham	NC		
Freeman; Bruce A.	Birmingham	AL		
Trova; Michael P.	Schenectady	NY		
Batinic-Haberle; Ines	Durham	NC		

US-CL-CURRENT: 514/185; 252/399, 252/400.23, 435/189, 435/252.3, 435/320.1, 540/145

Full	Title	Citation	Front	Review	Classification	Date	Reference
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KWIC	Draw Desc	Image
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☐ 3. Document ID: US 6121195 A

L23: Entry 3 of 8

File: USPT

Sep 19, 2000

US-PAT-NO: 6121195

DOCUMENT-IDENTIFIER: US 6121195 A

TITLE: Methods and compositions for enhancing
formyltetrahydropteroylpolyglutamate in plants

DATE-ISSUED: September 19, 2000

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Nonomura; Arthur M.	Boxborough	MA	01719	
Nishio; John N.	Laramie	WY	82070	
Benson; Andrew A.	La Jolla	CA	92037	

US-CL-CURRENT: 504/136; 504/143, 504/144, 504/147, 504/149, 504/241, 504/318,
504/324, 504/339

Full	Title	Citation	Front	Review	Classification	Date	Reference
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KWIC	Draw Desc	Image
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☐ 4. Document ID: US 6120999 A

L23: Entry 4 of 8

File: USPT

Sep 19, 2000

US-PAT-NO: 6120999

DOCUMENT-IDENTIFIER: US 6120999 A

TITLE: Histidine kinase two-component in Candida albicans

DATE-ISSUED: September 19, 2000

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Abad; Antonio Jose C.	Washington	DC		
Choi; Gil H.	Rockville	MD		
Calderone; Richard A.	Washington	DC		

US-CL-CURRENT: 435/6; 435/252.3, 435/320.1, 435/69.1, 435/91.2, 536/23.2,
536/23.74, 536/24.32, 536/24.33

Full	Title	Citation	Front	Review	Classification	Date	Reference
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KWIC	Draw Desc	Image
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☐ 5. Document ID: US 5994072 A

L23: Entry 5 of 8

File: USPT

Nov 30, 1999

US-PAT-NO: 5994072
DOCUMENT-IDENTIFIER: US 5994072 A

TITLE: Proteins involved in the synthesis and assembly of O-antigen in
Pseudomonas aeruginosa

DATE-ISSUED: November 30, 1999

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Lam; Joseph S.	Guelph			CAX
Burrows; Lori	Guelph			CAX
Charter; Deborah	Guelph			CAX
de Kievit; Teresa	Guelph			CAX

US-CL-CURRENT: 435/6; 435/252.3, 435/320.1, 536/23.7

Full	Title	Citation	Front	Review	Classification	Date	Reference
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KWIC	Draw Desc	Image
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☐ 6. Document ID: US 5846908 A

L23: Entry 6 of 8

File: USPT

Dec 8, 1998

US-PAT-NO: 5846908
DOCUMENT-IDENTIFIER: US 5846908 A

TITLE: Methods and compositions for enhancing plant growth with p-amino- or
p-nitro-benzoic acids

DATE-ISSUED: December 8, 1998

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Nonomura; Arthur M.	Boxborough	MA	01719	
Nishio; John N.	Laramie	WY	82070	
Benson; Andrew A.	La Jolla	CA	92037	

US-CL-CURRENT: 504/322; 504/136, 504/142, 504/144, 504/147, 504/149, 504/324

Full	Title	Citation	Front	Review	Classification	Date	Reference
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KWIC	Draw Desc	Image
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☐ 7. Document ID: US 3793147 A

L23: Entry 7 of 8

File: USPT

Feb 19, 1974

US-PAT-NO: 3793147
DOCUMENT-IDENTIFIER: US 3793147 A

TITLE: ANTIBIOTIC 18.631 RP

DATE-ISSUED: February 19, 1974

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Mancy; Denise	Charenton			FR
Ninet; Leon	Paris			FR
Preud Homme; Jean	Paris			FR

US-CL-CURRENT: 435/75; 435/886, 435/898

Full	Title	Citation	Front	Review	Classification	Date	Reference
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KWIC	Draw Desc	Image
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☐ 8. Document ID: JP 2000316567 A

L23: Entry 8 of 8

File: JPAB

Nov 21, 2000

PUB-NO: JP02000316567A
DOCUMENT-IDENTIFIER: JP 2000316567 A
TITLE: CULTURE MEDIUM FOR PROLIFERATING GENUS LACTOBACILLUS

PUBN-DATE: November 21, 2000

INVENTOR-INFORMATION:

NAME	COUNTRY
ZINK, RALF	
ELLI, MARINA	
RENIERO, ROBERTO	
MORELLI, LORENZO	

INT-CL (IPC): C12N 1/20

Full	Title	Citation	Front	Review	Classification	Date	Reference
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KWIC	Draw Desc	Image
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Term	Documents
IRON.DWPI,TDBD,EPAB,JPAB,USPT,PGPB.	507334
IRONS.DWPI,TDBD,EPAB,JPAB,USPT,PGPB.	13089
"CULTURE MEDIUM".DWPI,TDBD,EPAB,JPAB,USPT,PGPB.	0
LACTOBACILLUS.DWPI,TDBD,EPAB,JPAB,USPT,PGPB.	6579
LACTOBACILLU.DWPI,TDBD,EPAB,JPAB,USPT,PGPB.	50
"AMINO ACIDS".DWPI,TDBD,EPAB,JPAB,USPT,PGPB.	0
CYSTEINE.DWPI,TDBD,EPAB,JPAB,USPT,PGPB.	28846
CYSTEINES.DWPI,TDBD,EPAB,JPAB,USPT,PGPB.	2939
ADENOSINE.DWPI,TDBD,EPAB,JPAB,USPT,PGPB.	16590
ADENOSINES.DWPI,TDBD,EPAB,JPAB,USPT,PGPB.	330
(LACTOBACILLUS AND ADENOSINE AND CYSTEINE AND "CULTURE MEDIUM" AND IRON AND "AMINO ACIDS").USPT,PGPB,JPAB,EPAB,DWPI,TDBD.	8

Documents, starting with Document:

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Term	Documents
IRON.DWPI,TDBD,EPAB,JPAB,USPT,PGPB.	507334
IRONS.DWPI,TDBD,EPAB,JPAB,USPT,PGPB.	13089
"CULTURE MEDIUM".DWPI,TDBD,EPAB,JPAB,USPT,PGPB.	0
LACTOBACILLUS.DWPI,TDBD,EPAB,JPAB,USPT,PGPB.	6579
LACTOBACILLU.DWPI,TDBD,EPAB,JPAB,USPT,PGPB.	50
"AMINO ACIDS".DWPI,TDBD,EPAB,JPAB,USPT,PGPB.	0
CYSTEINE.DWPI,TDBD,EPAB,JPAB,USPT,PGPB.	28846
CYSTEINES.DWPI,TDBD,EPAB,JPAB,USPT,PGPB.	2939
ADENOSINE.DWPI,TDBD,EPAB,JPAB,USPT,PGPB.	16590
ADENOSINES.DWPI,TDBD,EPAB,JPAB,USPT,PGPB.	330
(LACTOBACILLUS AND ADENOSINE AND CYSTEINE AND "CULTURE MEDIUM" AND IRON AND "AMINO ACIDS").USPT,PGPB,JPAB,EPAB,DWPI,TDBD.	8

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Refine Search:

"iron" and "culture medium" and
"Lactobacillus" and "amino acids" and
"cysteine" and "adenosine"

[Clear](#)**Search History****Today's Date: 12/6/2001****DB Name****Query****Hit
Count****Set
Name**

"iron" and "culture medium" and

USPT,PGPB,JPAB,EPAB,DWPI,TDBD	"Lactobacillus" and "amino acids" and "cysteine" and "adenosine"	8	L23
USPT,PGPB,JPAB,EPAB,DWPI,TDBD	"iron" and "culture medium" and "Lactobacillus" and "amino acids" and "cysteine"	31	L22
USPT,PGPB,JPAB,EPAB,DWPI,TDBD	"iron" and "culture medium" and "Lactobacillus" and "amino acids" and "uridine"	6	L21
USPT,PGPB,JPAB,EPAB,DWPI,TDBD	"iron" and "culture medium" and "Lactobacillus" and "amino acids"	92	L20
USPT,PGPB,JPAB,EPAB,DWPI,TDBD	"iron" and "culture medium" and "Lactobacillus"	167	L19
USPT,PGPB,JPAB,EPAB,DWPI,TDBD	"added ferric" and "medium" and "Lactobacilli"	1	L18
USPT,PGPB,JPAB,EPAB,DWPI,TDBD	"added iron" and "medium" and "Lactobacilli"	0	L17
USPT,PGPB,JPAB,EPAB,DWPI,TDBD	"Rogosa medium"	14	L16
USPT,PGPB,JPAB,EPAB,DWPI,TDBD	"Lactobacilli" and "culture medium" and "ferric" and "amino acids" and "milk"	3	L15
USPT,PGPB,JPAB,EPAB,DWPI,TDBD	"Lactobacilli" and "culture medium" and "ferric" and "amino acids"	4	L14
USPT,PGPB,JPAB,EPAB,DWPI,TDBD	"Lactobacilli medium" and "milk"	2	L13
USPT,PGPB,JPAB,EPAB,DWPI,TDBD	"ribonucleotide precursors" and "milk" and "culture"	0	L12
USPT,PGPB,JPAB,EPAB,DWPI,TDBD	"ribonucleotide precursors include amino acids"	0	L11
USPT,PGPB,JPAB,EPAB,DWPI,TDBD	"amino acid ribonucleotide precursors"	0	L10
USPT,PGPB,JPAB,EPAB,DWPI,TDBD	"selected ribonucleotides"	2	L9
USPT,PGPB,JPAB,EPAB,DWPI,TDBD	"ribonucleotide precursors" and "cytidine"	2	L8
USPT,PGPB,JPAB,EPAB,DWPI,TDBD	"ribonucleotide precursors"	11	L7
USPT,PGPB,JPAB,EPAB,DWPI,TDBD	"culture" and "adenosine" and "Lactobacillus" and "guanosine" and "uridine" and "cytidine"	2	L6
USPT,PGPB,JPAB,EPAB,DWPI,TDBD	"culture" and "adenosine" and "Lactobacillus" and "guanosine" and "uridine"	2	L5
USPT,PGPB,JPAB,EPAB,DWPI,TDBD	"culture" and "adenosine" and "Lactobacillus" and "guanosine"	14	L4
USPT,PGPB,JPAB,EPAB,DWPI,TDBD	"culture" and "adenosine" and "Lactobacillus"	115	L3

USPT,PGPB,JPAB,EPAB,DWPI,TDBD	"culture" and "ribonucleotide precursors" and "iron"	0	<u>L2</u>
USPT,PGPB,JPAB,EPAB,DWPI,TDBD	"Lactobacillus" and "ribonucleotide precursors" and "iron"	0	<u>L1</u>

WEST[Generate Collection](#)**Search Results - Record(s) 1 through 2 of 2 returned.**☐ 1. Document ID: US 4997926 A

L6: Entry 1 of 2

File: USPT

Mar 5, 1991

US-PAT-NO: 4997926

DOCUMENT-IDENTIFIER: US 4997926 A

TITLE: Deaminase-stable anti-retroviral 2-halo-2',3'-dideoxy

DATE-ISSUED: March 5, 1991

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Haertle; Thomasz	Nantes Cedex			FRX
Carson; Dennis A.	Del Mar	CA		

US-CL-CURRENT: 536/27.14

Full	Title	Citation	Front	Review	Classification	Date	Reference	Claims	KWIC	Draw Desc	Image
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☐ 2. Document ID: US 4544559 A

L6: Entry 2 of 2

File: USPT

Oct 1, 1985

US-PAT-NO: 4544559

DOCUMENT-IDENTIFIER: US 4544559 A

TITLE: Nucleotide enriched humanized milk and process for its preparation

DATE-ISSUED: October 1, 1985

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Gil; Angel	Granada			ESX
Valverde; Luis	Granada			ESX

US-CL-CURRENT: 426/72; 426/399, 426/401, 426/580, 426/585, 426/658, 426/73, 426/74, 426/801

Full	Title	Citation	Front	Review	Classification	Date	Reference	KWIC	Draw Desc	Image
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Term	Documents
CULTURE.DWPI,TDBD,EPAB,JPAB,USPT,PGPB.	149199
CULTURES.DWPI,TDBD,EPAB,JPAB,USPT,PGPB.	50701
ADENOSINE.DWPI,TDBD,EPAB,JPAB,USPT,PGPB.	16590
ADENOSINES.DWPI,TDBD,EPAB,JPAB,USPT,PGPB.	330
LACTOBACILLUS.DWPI,TDBD,EPAB,JPAB,USPT,PGPB.	6579
LACTOBACILLU.DWPI,TDBD,EPAB,JPAB,USPT,PGPB.	50
GUANOSINE.DWPI,TDBD,EPAB,JPAB,USPT,PGPB.	4952
GUANOSINES.DWPI,TDBD,EPAB,JPAB,USPT,PGPB.	126
URIDINE.DWPI,TDBD,EPAB,JPAB,USPT,PGPB.	5148
URIDINES.DWPI,TDBD,EPAB,JPAB,USPT,PGPB.	140
("CULTURE" AND "ADENOSINE" AND "LACTOBACILLUS" AND "GUANOSINE" AND "URIDINE" AND "CYTIDINE").USPT,PGPB,JPAB,EPAB,DWPI,TDBD.	2

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Documents, starting with Document:

2

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L8: Entry 2 of 2

File: USPT

Sep 5, 1989

DOCUMENT-IDENTIFIER: US 4863849 A

TITLE: Automatable process for sequencing nucleotide

BSPR:

DNA is a long threadlike macromolecule comprising a chain of deoxyribonucleotides. Similarly, RNA is composed of a chain of ribonucleotides. A nucleotide consists of a nucleoside, i.e., a nitrogenous base linked to a pentose sugar, and one or more phosphate groups which is usually esterified at the hydroxyl group attached to C-5 of the pentose sugar (indicated as 5') of the nucleoside. Such compounds are called nucleoside 5'-phosphates or 5'-nucleotides. In a molecule of DNA the pentose sugar is deoxyribose, whereas in a molecule of RNA the pentose sugar is ribose. The nitrogenous base can be a purine derivative such as adenine or guanine, or a pyrimidine derivative such as cytosine, thymine (in deoxyribonucleotides) or uracil (in ribonucleotides). Thus, the major nucleotides of DNA are deoxyadenosine 5'-triphosphate (dATP), deoxyguanosine 5'-triphosphate (dGTP), deoxycytidine 5'-triphosphate (dCTP), and deoxythymidine 5'-triphosphate (dTTP). The major nucleotides of RNA are adenosine 5'-triphosphate (ATP), guanosine 5'-triphosphate (GTP), cytidine 5'-triphosphate (CTP) and uridine 5'-triphosphate (UTP).

BSPR:

The formation of the phosphodiester bonds between deoxyribonucleotides is catalyzed by the enzyme DNA polymerase. DNA polymerase requires the following components to catalyze the synthesis of a chain of DNA: a template strand (e.g. a single-stranded DNA molecule), a primer (i.e., a short DNA or RNA chain with a free 3'-hydroxyl group, that is hybridized to a specific site on the single-stranded template), and activated deoxyribonucleotide precursors (i.e., nucleoside 5'-triphosphates or dNTPs). Elongation of the primer strand, catalyzed by DNA polymerase, proceeds in the 5' to 3' direction along the template. This occurs by means of nucleophilic attack of the 3'-hydroxyl terminus of the primer on the innermost phosphorous atom of the incoming nucleotide; a phosphodiester bridge is formed and pyrophosphate is released. DNA polymerase catalyzes the formation of a phosphodiester bond only if the base of the incoming nucleotide is complementary to the base of the nucleotide on the template strand; that is, the incoming nucleotide must form the correct Watson-Crick type of basepair with the template. Thus, DNA polymerase is a template-directed enzyme. Reverse transcriptase is also a template-directed DNA polymerase, but requires RNA as its template. Another enzyme, RNA polymerase, catalyzes the polymerization of activated ribonucleotide precursors that are complementary to the DNA template. Some polymerases, such as E.coli DNA polymerase I and T4 DNA polymerase, also have a 3' to 5' exonuclease activity that acts on unpaired termini. This 3' to 5' exonuclease activity serves a "proof-reading" function by removing mispaired bases before polymerization continues; i.e., the mispaired bases are edited out of the elongating strand.

DEPR:

Selection of the primer, polymerase and activated nucleotide precursors used in the practice of the present invention depends upon the nature of the template to be sequenced. For example, if the template to be sequenced is DNA, the primer used may be DNA, RNA or a mixture of both. The polymerase used

should be a DNA-directed polymerase. If a DNA-directed DNA polymerase is used, then deoxyribonucleotide precursors will be used in the reaction; alternatively a DNA-directed RNA polymerase requires ribonucleotide precursors to be used in the reaction. However, if the strand to be sequence is RNA, the polymerase used should be an RNA-directed DNA polymerase, in which case deoxyribonucleotide precursors will be used in the reaction.

WEST**Generate Collection****Search Results - Record(s) 1 through 2 of 2 returned.**☐ 1. Document ID: US 5574141 A

L8: Entry 1 of 2

File: USPT

Nov 12, 1996

US-PAT-NO: 5574141

DOCUMENT-IDENTIFIER: US 5574141 A

TITLE: Functionalized carrier materials for the simultaneous synthesis and direct labeling of oligonucleotides as primers for template-dependent enzymatic nucleic acid syntheses

DATE-ISSUED: November 12, 1996

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Seliger; Hartmut	Elchingen			DEX
Markiewicz; Wojciech	Poznan			PLX
Gr oger; Gabriele	Elchingen			DEX
R osch; Rudi	Ulm			DEX
Klotz; Margit	Schelklingen			DEX

US-CL-CURRENT: 536/22.1; 435/5, 435/6, 435/91.1, 435/91.2, 536/25.3

Full	Title	Citation	Front	Review	Classification	Date	Reference	Claims	KWC	Draw Desc	Image
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☐ 2. Document ID: US 4863849 A

L8: Entry 2 of 2

File: USPT

Sep 5, 1989

US-PAT-NO: 4863849

DOCUMENT-IDENTIFIER: US 4863849 A

TITLE: Automatable process for sequencing nucleotide

DATE-ISSUED: September 5, 1989

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Melamede; Robert J.	Carmel	NY		

US-CL-CURRENT: 435/6; 435/91.3, 435/91.5, 435/91.51

Full	Title	Citation	Front	Review	Classification	Date	Reference	Claims	KWC	Draw Desc	Image
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Term	Documents
"RIBONUCLEOTIDE PRECURSORS".DWPI,TDBD,EPAB,JPAB,USPT,PGPB.	0
CYTIDINE.DWPI,TDBD,EPAB,JPAB,USPT,PGPB.	3842
CYTIDINES.DWPI,TDBD,EPAB,JPAB,USPT,PGPB.	109
(CYTIDINE AND "RIBONUCLEOTIDE PRECURSORS").USPT,PGPB,JPAB,EPAB,DWPI,TDBD.	2

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Documents, starting with Document:

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WEST

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L40: Entry 4 of 22

File: USPT

Apr 18, 2000

DOCUMENT-IDENTIFIER: US 6051552 A
TITLE: Lactobacillus therapies

ABPL:

The present invention is directed towards isolated lactobacillus biosurfactants and the process for producing same. The present invention is also directed to methods for preventing urogenital infection in mammals using the isolated lactobacillus biosurfactant. The present invention is further directed to methods of inhibiting microbial biofilm formation using the isolated lactobacillus biosurfactant to prevent the formation of bacterial biofilms, and to displace adherent biofilm-forming bacteria from surfaces.

BSPR:

Lactobacilli are able to interfere with uropathogenic bacteria through several mechanisms. Lactobacillus whole cells and cell wall fragments have been found to competitively exclude a range of uropathogens from adhering to uroepithelial cells (Chan, et al. (1985) Infect. Immun. 49:84-89; Reid, et al. (1987) J. Urol. 138:330-335). competitive exclusion of uropathogens from attaching to polymer and catheter surfaces by lactobacilli has also been demonstrated (Hawthorn, et al. (1990) J. Biomed. Mater. Res. 24:39-46; Reid and Tieszer (1993) Cells and Materials 3:171-176). Lactobacilli have also been shown to coaggregate with uropathogenic bacteria which, in combination with inhibitor production, may lead to elimination of the uropathogens from surfaces (Reid, et al. (1988) Can. J. Microbiol. 34:344-351). Lactobacilli are also known to produce a variety of metabolic by-products with antimicrobial activity, such as hydrogen peroxide, lactic acid, bacteriocins and bacteriocin-like substances. However, prior to the present invention, no one identified the biosurfactant substances produced by the lactobacilli that were responsible for inhibiting the adhesion of pathogenic and particularly uropathogenic bacteria. As described hereinbelow, the present inventors have identified that substance, isolated it, and discovered that this substance is important for the inhibitory effects described hereinabove.

BSPR:

The present invention is directed towards isolated lactobacillus biosurfactants and the process for producing same. The present invention is also directed to methods for preventing urinary tract infections and vaginitis in mammals using the isolated lactobacillus biosurfactant. The present invention is further directed to methods for treating infections in mammals, both male and female, associated with the insertion of biological devices e.g. urogenital devices. The present invention is still further directed to methods of inhibiting microbial biofilm formation using the isolated Lactobacillus biosurfactant and to displacing adherent biofilm-forming bacteria from surfaces.

BSPR:

One aspect of the present invention is directed to an isolated Lactobacillus biosurfactant produced by harvesting Lactobacillus cells, washing and resuspending the cells in a buffer solution, subjecting the cells to conditions conducive to releasing biosurfactant, and separating the biosurfactant from said cells.

BSPR:

Another aspect of the present invention is directed to a method for preventing urogenital infection in mammals by coating a biosurface or biomaterial for insertion into a mammal with a uropathogenically inhibitory amount of a Lactobacillus biosurfactant.

BSPR:

A still further aspect of the present invention is directed to a method of inhibiting microbial biofilm formation comprising coating a biosurface or biomaterial for insertion into a mammal with a pathogenically inhibitory amount of a Lactobacillus biosurfactant.

BSPR:

Another aspect of the present invention is directed to a method of treating an adherent pathogenic biofilm comprising coating a biosurface or biomaterial for insertion into a mammal with a pathogenically inhibitory amount of a Lactobacillus biosurfactant.

BSPR:

Another aspect of the present invention is directed to a pharmaceutical formulation comprising a pathogenically inhibitory amount of a Lactobacillus biosurfactant.

DRPR:

FIG. 2 is a SDS-polyacrylamide gel electrophoresis of Lactobacillus biosurfactant isolated from L. acidophilus RC-14.

DRPR:

FIG. 4A plots the liquid surface tension of Lactobacillus acidophilus RC14 suspension droplets as a function of time by ADSA-P. Lactobacilli were harvested in their mid-exponential and stationary growth phase. FIG. 4B plots the liquid surface tension of Lactobacillus acidophilus T13 suspension droplets as a function of time by ADSA-P. Lactobacilli were harvested in their mid-exponential and stationary growth phase. FIG. 4C plots the liquid surface tension of Lactobacillus casei subsp. rhamnosus B1 as a function of time by ADSA-P. FIG. 4D plots the liquid surface tension of Lactobacillus fermentum B54 droplets as a function of time by ADSA-P. Lactobacilli were harvested in their mid-exponential and stationary growth phase.

DRPR:

FIG. 6 is a SDS-polyacrylamide gel electrophoresis of Lactobacillus stationary phase biosurfactants: lane 1, molecular weight standards (M); lane 2, RC14; lane 3, B-54; lane 4, molecular weight standards (M); lane 5, ATCC 7469; lane 6, L. casei var rhamnosus 36; lane 7, molecular weight standards (M).

DEPR:

One aspect of the present invention is directed to an isolated Lactobacillus biosurfactant. As defined by the present invention, a biosurfactant is a compound released by microorganisms with a distinct tendency to accumulate at interfaces, most notably the liquid-air interface.

DEPR:

Various strains of Lactobacillus have been used to prepare the biosurfactants of the present invention. They include Lactobacillus acidophilus, L. casei, L. rhamnosus, L. plantarum and L. fermentum and the like.

DEPR:

Preferred lactobacilli include: Lactobacillus casei var rhamnosus GR-1, L. casei 70, L. casei var rhamnosus 36, L. casei var rhamnosus 81, L. casei var casei ATCC 393 and L. casei var rhamnosus ATCC 7469. Other lactobacilli include L. acidophilus RC-14, L. plantarum RC-6, L. plantarum RC-20, L. acidophilus T-13, L. fermentum B-54, L. fermentum ATCC 23271, L. fermentum ATCC 14931, L. acidophilus ATCC 4356 and L. plantarum 14917. The lactobacilli are either aerobically or microaerophillically grown in a conventional culture medium. It is preferred that the latter group of lactobacilli be microaerophillically grown, while the former group is aerobically grown. Any

growth medium typically used to culture bacteria can be utilized. However, it is preferred that the cultures are grown in MRS broth. As they are growing in the growth medium, the lactobacilli are producing the biosurfactants.

DEPR:

The biosurfactants were isolated from the lactobacilli by the following method: harvesting the Lactobacillus cells, washing and resuspending the cells in a buffer solution, subjecting the washed and resuspended cells to conditions conducive to release the biosurfactant; and separating the biosurfactant from the bacteria.

DEPR:

The Lactobacillus cells are harvested by conventional techniques, e.g. sonication, centrifugation and the like under conditions effective to harvest the cells. It is preferred that the lactobacilli are centrifuged under conditions sufficient to harvest the cells without any detrimental effects on the biosurfactant. Preferably, the lactobacilli are centrifuged at at least about 5,000 g and preferably from about 5,000 to about 20,000 g, although it is most preferred that the centrifugation takes place at about 10,000 g. In an even more preferred embodiment the Lactobacillus cells are centrifuged at about 10,000 g at effective harvesting temperatures, without denaturing or decomposing the biosurfactant. Preferably, the centrifugation is run at refrigerated temperatures (i.e., greater than 0.degree. C. but less than about 15.degree. C., and more preferably at about 4.degree. C. to about 12.degree. C. and most preferably at about 10.degree. C. for sufficient time to harvest the cells. It is preferred that the centrifugation take place under the above conditions for at least 5 minutes and more preferably for about 5-10 minutes. In a more preferred embodiment, the lactobacilli are centrifuged at about 10,000 g at about 10.degree. C.

DEPR:

A number of assays may be employed to examine the ability of Lactobacillus biosurfactants to inhibit the adhesion of microorganisms. In an embodiment of the present invention adhesion of, e.g. *Enterococcus faecalis* 1131 is measured in accordance with the present invention using a parallel plate flow chamber, using glass plates with and without an adsorbed biosurfactant layer. In another embodiment of the present invention, the ability of Lactobacillus biosurfactant to inhibit adhesion of uropathogenic microorganisms is measured using a polystyrene adhesion assay, as described in Example 4.

DEPR:

The present inventors have found that the biosurfactant isolated from the lactobacilli, after the dialysis step is extremely potent. In fact, the inventors have found that diluted Lactobacillus biosurfactant effectively reduces and effectively inhibits the initial deposition rate of and inhibits adhesion of e.g. *Enterococcus* in vitro. Therefore, preferred concentrations of the substances isolated after the dialysis step, in accordance with the present process, are diluted from about 5-fold to 50-fold. However, it is preferred that the Lactobacillus biosurfactant is diluted 10-fold. It has been found that a 10-fold diluted Lactobacillus biosurfactant inhibits adhesion of *Enterococcus faecalis* to e.g. glass, polystyrene and rubber for at least 4 hours.

DEPR:

In addition to the Lactobacillus biosurfactant described hereinabove, the compositions may additionally contain pharmaceutical vehicles, such as carriers and adjuvants described in the literature of pharmaceuticals, cosmetics and related fields.

DEPR:

A topical cream may be conventionally prepared as a semi-solid emulsion of oil in water or water in oil comprising the Lactobacillus biosurfactants together with fatty alcohols, mineral oil or petrolatum and other typical pharmaceutical vehicles such as carriers, adjuvants, such as antioxidants, antiseptics and the like.

DEPR:

The biosurfactants are present in the various pharmaceutical formulations described hereinabove in pathogenically inhibitory amounts. "Pathogenically inhibitory", "effective amount" or "uropathogenically inhibiting" as used herein is defined as an amount of Lactobacillus biosurfactant sufficient to significantly inhibit the adhesion of uropathogens and other pathogens found outside the urinary tract (e.g. *Staphylococcus aureus*) but low enough to avoid serious side effects (at a reasonable benefit/risk ratio) within the scope of sound medical/scientific judgment. However, it is preferred that the formulation contains between 0.1 to 99 weight percent based on the total weight of the formulation for topical application. It is also preferred that the amount of the formulation of the present invention applied to a particular biosurface or biomaterial range from 0.001 .mu.g to 100 .mu.g/cm.² relative to the area upon which the biosurfactant is applied.

DEPR:

It has been found that the biosurfactants produced by the present invention are effective in inhibiting adhesion of pathogenic, e.g. uropathogenic, bacteria. As indicated heretofore, the biomaterials act as a nidus for pathogenic infection. The pathogenic, e.g. uropathogenic, bacteria adhere to the surfaces. However, when the biosurfaces or biodevices are coated with effective amounts of the isolated biosurfactants of the present invention, their presence inhibits adherence of the uropathogenic bacteria. Accordingly, in another aspect of this invention, the lactobacillus biosurfactant produced in accordance with the present invention inhibits or reduces the adherence and colonization of pathogens, e.g. uropathogens on biosurfaces and biomaterials, e.g. uroepithelia and catheter surfaces, for example. The Lactobacillus biosurfactant produced in accordance with the present invention significantly inhibits the adherence and colonization of e.g. *Enterococcus faecalis* to uroepithelial and vaginal epithelial cells.

DEPR:

In another aspect of the present invention, a method for preventing urogenital infection in mammals is provided which involves coating a biologically compatible device with a uropathogenically inhibitory amount of the lactobacillus biosurfactant and inserting the device into the urogenital tract. The uropathogenically inhibitory amount of lactobacillus biosurfactant coating is conventionally deposited on the outer surface of a biologically compatible device. The coating may also be conventionally applied to the inner surface of a device. The coating may be uniformly or non-uniformly deposited on the surface of a biologically compatible device. The biologically compatible device may be composed of polymers such as fluorinated ethylene propylene, sulfonated polystyrene, polystyrene, polyethyleneterephthalate silicone, polyurethane, polyvinylchloride silicone rubber, or glass, for example. The biodevice may be a catheter such as a urinary or peritoneal catheter, a diaphragm, a stent, an IUD or a diaper, an intravenous line, a peritoneal dialysis tube, an endotracheal tube, or an intravaginal, intrauterine, or intraurethral or intraureteral device, for example.

DEPR:

What has now been discovered, however, is that adsorbed biosurfactant produced by Lactobacillus species, in vitro, inhibited the initial adhesion of pathogenic microorganisms including *Escherichia coli*, *Enterococcus faecalis*, *Klebsiella*, *Proteus mirabilis*, *Providencia stuartii*, *Pseudomonas aeruginosa* and *Staphylococcus epidermidis*. It has further been discovered that the lactobacillus biosurfactants of the present invention inhibit the adhesion of pathogenic microorganisms including *Candida albicans*, *Escherichia coli*, *Enterococcus faecalis*, *Klebsiella*, *Proteus mirabilis*, *Providencia stuartii*, *Pseudomonas aeruginosa* and *Staphylococcus epidermidis* for a significant period of time, greater than about four hours.

DEPR:

For example, in accordance with the present invention, it has been found by the present inventors that *E. faecalis* adhesion to the *L. acidophilus* RC-14

Velraeds, Martine M.C. et al. "Inhibition of Initial Adhesion of Uropathogenic *Enterococcus faecalis* by Biosurfactants from *Lactobacillus* Isolates," *Applied and Environmental Microbiol.*, 1996, 62, 1958-1963.

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 IBM Technical Disclosure Bulletins

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"DSM 33199"

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L35: Entry 1 of 3

File: USPT

Jun 15, 1993

DOCUMENT-IDENTIFIER: US 5219597 A

TITLE: Method for producing highly concentrated, lactic-acid fermented product utilizing unground grainy rice and improving qualities thereof by the secondary, enzymatic treatment at fermentation

DEPR:

Lactic acid bacteria used in the invention are three species of lactobacillus and one species of Streptococcus. The lactic acid bacteria which can be used in the invention are selected from one or more species from the group consisting Strephococcus thermophilus, Lactoba cillus, acidophilus and L. bulgaricus. L. plantarum bacteria can also be used only if they conduct a lactic acid fermentation from rice. Lactic acid bacteria used in the invention were Lactobacillus acidophilus ATCC 11506, L. bulgaricus KCTC 2179 and L. Plantarum ATCC 8014, and Streptococcus thermophilus KCTC 2185.

WEST**End of Result Set**

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L6: Entry 2 of 2

File: USPT

Oct 1, 1985

DOCUMENT-IDENTIFIER: US 4544559 A

TITLE: Nucleotide enriched humanized milk and process for its preparation

BSPR:

Although the different analytical methods used and the lack of samples did not allow the application of statistical analysis, all these authors concluded that the nucleotidic composition of the mammary gland depends on its physiological states, gestation/lactation, and that the most abundant nucleotides during lactation are adenine, guanosine and inosine derivatives, while during gestation uridine derivatives were the most abundant (61% of total nucleotidic fraction). The NAD⁺ content of mammary gland becomes multiplied by four during the secretory stage, which is in agreement with the results obtained by McLean (P. McLean, Biochim. Biophys Acta 30, 316, 1958) on the mammary gland of rat. It seems that UDPGa is accumulated before birth, lowering throughout the lactation period. On the other hand, the UDP-N-acetyl-hexosamines become particularly abundant just before birth. Through the few papers on the nucleotidic composition of mammary gland and milk of several species, it might be assumed that the content of acid-soluble nucleotides of mammary gland is different from the secreted milk, both from the qualitative and quantitative point of view.

BSPR:

The application of quantitative methods to the bacteriological study of faecal material has completely changed the first ideas on the composition of normal intestine microflora. These ideas were based on mere qualitative results obtained through aerobic cultures of faeces. The prevailing character of *Escherichia coli* in faeces of man and several animal species were generally accepted. There was an only exception applied to bacterial content of faeces of healthy breast-fed infants, in which *Bifidobacterium bifidum* Ti., discovered by Tissier, was predominant and almost exclusive.

BSPR:

The bulk of anaerobic bacteria in human intestine consists of non-sporulated Gram positive bacilli and Gram negative bacilli. These latter make up an heterogeneous group of proteolytic and saccharoclastic bacteria belonging to Gen. *Bacteroides* which according to culture conditions, may reach 40-80% of total culturable bacteria in adults. In the same way, Gram positive non-sporulated bacteria may reach 10-60% in normal adults.

BSPR:

Before the final classification of Gen. *Bifidobacterium* in 1974, a strong controversy arose since many authors considered bifidobacteria as belonging to Gen. Lactobacillus, particularly to species *L. bifidus*.

BSPR:

U.S. Pat. No. 3,274,003 defines the incorporation to infant milk formulas of chemical compounds which exhibit promoting growth activity for Lactobacillus bifidum var. Penn. These substances are glucosamine derivatives (N-octanoyl, N-benzoyl or N-carboxy-ethoxy-d-glucosamine).

BSPR:

U.S. Pat. No. 3,338,719, states that if cow's milk is treated with cristaline muramidase ranging 0.05-0.1 mg of enzyme/ml of milk at 30.degree. C. during 3 h of reaction time, the final product promotes the growth of Lactobacillus bifidum equalizing the human milk effect.

BSPR:

For a long time the applicants have studied the differences in the acid-soluble nucleotides content between human milk and milk from ruminant species, specially from the cow. For this purpose new analytic methods based on enzymatic determination of AMP, CMP, GMP, IMP, UMP and also adenine, cytidine, guanosine and uridine total nucleotides have been used, as well as traditional techniques for the determination of acid-soluble nucleotides by ion-exchange chromatography.

BSPR:

In cow's milk, uridine derivatives are particularly abundant and sometimes they reach 85-90% of the total nucleotides during 24-48 h. after birth. UDP-N-AG, UDP-N-AGa, UDPG and UDPGa are the uridine nucleotides found in higher quantity. As just pointed out, the concentration of all the nucleotidic components in cow's milk, except the orotate, increase in a strong manner from parturition until 48 h. later. Subsequently CMP and AMP decrease gradually until the end of lactation and the uridine nucleotides content decrease very quickly until disappearing after one month of lactation. Guanine derivatives in cow's milk are not quantitatively important, and their evolution during lactation is quite similar to the uridine derivatives. The content in orotate during lactation reaches the 90% of the total of all nucleotides.

BSPR:

Sheep's milk has a great amount of nucleotides, being their concentration of about 5-7 times higher than in cows milk. Uridine derivates, mainly those bound to carbohydrates, such as glucose, galactose, N-acetyl-glucosamine, N-acetyl-galactosamine and glucuronic acid, are the predominant ones. On the other hand, there is a high content of guanine derivates of which GDPMan and GDPFuc are the most important ones. CMP and AMP are regularly found in sheep's milk reaching approximately 4 times the concentration found in cow's milk. The concentration of all the nucleotides in sheep's milk increases very quickly, from parturition until 48 h. later. Afterwards, the content in nucleotides decreases until it remains more or less unchanged at about the 15th-30th day of lactation.

BSPR:

Human milk has a nucleotidic composition qualitatively similar to cow colostrum and to sheep's and goat's milk, although it is quite different to cow's milk. As to the quantitative aspects, there are sizable differences with sheep's and goat's milk since the content of nucleotides is only 20 .mu.mol/100 ml. Uridine derivates (UMP, UDP-N-AG, UDP-N-AGa, UDPG and UDP) represent the biggest part of all the nucleotides present in human milk. Guanine derivates are usually in this milk although their concentration is rather low. The presence of GDPFuc could not be proved, although it is a common nucleotide in sheep's and goat's milk. On the other hand, GMP is a typical compound of human milk throughout the period of lactation. Cytidine and adenosine derivatives in human milk represent about 25% of the total nucleotides. So, these compounds are relatively much more abundant than in the milk of other species analysed in this description. It has to be noted that human milk is quite different from cow's, sheep's and goat's milk in view of the fact that no orotate could be measured in human milk.

BSPU:

AMP=Adenosine-monophosphate

BSPU:

CMP=Cytidine-monophosphate

BSPU:

GMP=Guanosine-monophosphate

BSPU:

UMP=Uridine-monophosphate

BSPU:

ADP=Adenosine-diphosphate

BSPU:

CDP=Cytidine-diphosphate

BSPU:

UDP=Uridine-diphosphate

BSPU:

ATP=Adenosine-triphosphate

BSPU:

UTP=Uridine-triphosphate

BSPU:

UDPG=Uridine-diphosphate-glucose

BSPU:

UDPGa=Uridine-diphosphate-galactose

BSPU:

UDP-N-AG=Uridine-diphosphate-N-acetyl-glucosamine

BSPU:

UDP-N-AGa=Uridine-diphosphate-N-acetyl-galactosamine

BSPU:

GDPMan=Guanosine-diphosphate-mannose

BSPU:

GDPFuc=Guanosine-diphosphate-fucose

BSTL:

TABLE V	Nucleotides per 100 g of
product	<u>Uridine</u> -5'-monophosphate
disodium salt UMP 3.42 mg	<u>Guanosine</u> -5'-monophosphate disodium salt GMP 1.49 mg
<u>Adenosine</u> -5'-monophosphate disodium salt AMP 1.32 mg	<u>Cytidine</u> -5'-monophosphate
disodium salt CMP 1.12 mg	Inosine-5'-monophosphate disodium salt IMP 0.45 mg

CLPR:

1. Nucleotide enriched humanized milk in powder form which comprises: cow's milk; demineralized whey; vegetable oils; lactose; dipotassium phosphate; tripotassium citrate; sodium ascorbate; vitamins; minerals; and all of the following nucleotides in the precise ratios cited: AMP (adenosine-monophosphate) 1.32 mg/100 g, CMP (cytidine-monophosphate) 1.12 mg/100 g, GMP (guanosine-monophosphate) 1.49 mg/100 g, UMP (uridine-monophosphate) 3.42 mg/100 g and IMP (inosine-monophosphate) 0.45 mg/100 g.

CLPR:

2. Nucleotide enriched humanized milk in liquid form which comprises: cow's milk; demineralized whey; vegetable oils; lactose; dipotassium phosphate; tripotassium citrate; sodium ascorbate; vitamins; minerals; and all of the following nucleotides in the precise ratios cited: AMP (adenosine-monophosphate) 1.7 mg/liter, CMP (cytidine-monophosphate) 1.5 mg/liter, GMP (guanosine-monophosphate) 1.9 mg/liter, UMP (uridine-monophosphate) 4.4 mg/liter and IMP (inosine-monophosphate) 0.6 mg/liter.

CLPR:

4. A process for the preparation of a nucleotide enriched humanized milk in powder form comprising cow's milk; demineralized whey; vegetable oils; lactose; dipotassium phosphate; tripotassium citrate; sodium ascorbate; vitamins; minerals; and all of the following nucleotides in the precise ratios cited: AMP (adenosine-monophosphate) 1.32 mg/100 g, CMP (cytidine-monophosphate) 1.12 mg/100 g, GMP (guanosine-monophosphate) 1.49 mg/100 g, UMP (uridine-monophosphate) 3.42 mg/100 g and IMP (inosine-monophosphate) 0.45 mg/100 g, said process comprising the steps of:

CLPR:

6. A process for the preparation, in liquid form, of a nucleotide enriched humanized milk comprising cow's milk; demineralized whey; vegetable oils; lactose; dipotassium phosphate; tripotassium citrate; sodium ascorbate; vitamins; minerals, and all of the following nucleotides in the precise ratios cited: AMP (adenosine-monophosphate) 1.7 mg/liter, CMP (cytidine-monophosphate) 1.5 mg/liter, GMP (guanosine-monophosphate) 1.9 mg/liter, UMP (uridine-monophosphate) 4.4 mg/liter and IMP (inosine-monophosphate) 0.6 mg/liter, said process comprising, in the following order, the steps of:

CLTL:

Adenosine-5'-monophosphate disodium salt (AMP) 1.32 mg Cytidine-5'-monophosphate disodium salt (CMP) 1.12 mg
Guanosine-5'-monophosphate disodium salt (GMP) 1.49 mg
Uridine-5'-monophosphate disodium salt (UMP) 3.42 mg Inosine-5'-monophosphate disodium salt (IMP) 0.45 mg